0.5 and about 6.5 ppm/°C and a thermal conductivity below about 1 W/mK, wherein the tool body may be used for fabricating members from composite materials.

2. (Original) The tooling of claim 1 wherein said carbonaceous foam is pitch-based or coal-based.

3. (Original) The tooling of claim 2 wherein said carbonaceous foam is a semi-crystalline, largely isotropic, porous coal-based product produced from particulate coal exhibiting a free swell index of between about 3.5 and about 5.0.

4. (Original) The tooling of claim 3 wherein said coal exhibits a free swell index of between about 3.75 and about 4.5

5. (Original) The tooling of claim 2 having a compressive strength below about 6000 psi.

6. (Original) The tooling of claim 2 wherein said carbonaceous foam has been carbonized.

7. (Original) The tooling of claim 2 wherein said carbonaceous foam has been graphitized.

8. (Amended) The tooling of claim 1 further including a facesheet of a dissimilar material coated on the tool body~~thereon~~.

9. (Original) The tooling of claim 1 wherein the density of said carbonaceous foam varies in density throughout the mass thereof.

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10. (New) The tooling of claim 1, wherein the tool body is formed of carbonaceous foam that was controllably cooled to a temperature below about 100°C at a rate of 10°C/min or more to provide an outer surface of the carbonaceous foam with a density higher

than a density of an outer surface of the carbonaceous foam when the carbonaceous foam is cooled at a rate of less than 10°C/min.

11. (New) The tooling of claim 1, wherein the coefficient of thermal expansion of the carbonaceous foam is varied to be substantially similar to the coefficient of thermal expansion of the composite material.

12. (New) Tooling for the fabrication of composite materials, comprising a reusable tool body, the tool body comprising carbonaceous foam, the carbonaceous foam providing structural support for at least a portion of the composite material.

13. (New) The tooling of claim 12, wherein the carbonaceous foam can be one of at least two different coefficients of thermal expansion.

14. (New) The tooling of claim 12, wherein the carbonaceous foam has a density between about 0.10 and about 0.80 g/cm^3.

15. (New) The tooling of claim 12, wherein the carbonaceous foam has a coefficient of thermal expansion of at least 0.5 ppm/°C.

16. (New) The tooling of claim 12, wherein the carbonaceous foam has a thermal conductivity about or less than 1 W/mK.

17. (New) The tooling of claim 12, wherein the carbonaceous foam has at least one of a groove, a cavity or a channel.

18. (New) The tooling of claim 12, wherein at least a portion of an outer surface of the tool body is sealed by applying at least one of a facesheet and an adhesive on the outer surface of the tool body.

19. (New) The tooling of claim 12, wherein the reusable tool body is formed of carbonaceous foam that was controllably cooled to a temperature below about 100°C at a rate

of 10°C/min or more to provide an outer surface of the carbonaceous foam with a density higher than a density of an outer surface of the carbonaceous foam when the carbonaceous foam is cooled at a rate of less than 10°C/min.

20. (New) A method of manufacturing a composite structure, the method comprising wrapping a filament around the tooling of claim 12, wherein the reusable tool body is a mandrel.

21. (New) A method of manufacturing a composite structure, the method comprising providing at least a first composite material to at least a portion of the tool body according to claim 12, wherein the tool body comprises at least a male part and a female part which fit together.

22. (New) Tooling for the fabrication of composite materials, comprising:

at least a portion of a tool body comprising carbonaceous foam providing structural support for at least a portion of the composite material; and

at least one finished surface portion of an outer surface of the portion of the tool body.

23. (New) The tooling of claim 22, wherein the at least one finished surface portion is finished using at least one of a fiberglass composition and a carbon fiber.

24. (New) The tooling of claim 22, wherein the tool-body is impregnated with at least one strengthening material.

25. (New) The tooling of claim 22, wherein the coefficient of thermal expansion of the carbonaceous foam is substantially similar to the coefficient of thermal expansion of the composite material.

26. (New) The tooling of claim 22, wherein the coefficient of thermal expansion of the portion of the tool body is varied to be substantially similar to the coefficient of thermal expansion of the composite material.

27. (New) Tooling for the fabrication of a composite structure, comprising:

a male tooling body-part comprising carbonaceous foam, the male tooling body-part having at least one protrusion; and

a female tooling body-part comprising carbonaceous foam, the female tooling body-part having at least one cavity, wherein when the protrusion of male tooling body-part is inserted into the cavity of the female body-part at least one gap exists between at least one surface of the cavity of the female body-part and at least one surface of the protrusion of the male body-part.

28. (New) A method of manufacturing a composite structure using a tool body made substantially of carbonaceous foam, and comprising at least a female part having at least one cavity and a male part having at least one protrusion, wherein at least one gap exists between at least one surface of the cavity of the female part and at least one surface of the protrusion of the male part when the protrusion of the male part is inserted into the cavity of the female part, the method comprising:

providing at least a first composite material to at least the cavity of the female part; and

inserting the protrusion of male part into the cavity of the female part.

29. (New) A method of manufacturing a composite structure, the method comprising wrapping a filament for forming the composite structure around a mandrel comprising carbonaceous foam.

30. (New) The method of claim 29, further comprising removing, from the mandrel, the composite structure formed from the wrapped filament.